

AGS Series Linear Motor Cartesian Gantries are Optimized for Precise Contouring

- **Optimized design for precise contouring**
- **Velocity to 3 m/s and acceleration to 5 g**
- **High power brushless linear servomotors for smooth motion**
- **Travels up to 1.3 m X 1.3 m**
- **Customizable Z and θ axes for flexible configurations**
- **Noncontact linear encoders**
- **Configurable cable management system allows for integration of fiber lasers, cameras, air lines, etc. for multiple applications**

AGS15000 series Cartesian gantries are designed for ultra-precision, high-dynamic contouring. The planar design minimizes dynamic pitch errors at the workpoint. These gantry systems provide outstanding performance and versatility in a wide range of automation platforms including precision micromachining, stencil cutting, fuel cell manufacturing, printed electronics, flat sheet processing, high-speed pick-and-place, automated assembly, vision inspection, dispensing stations, and high-accuracy inspection.

High Speed/High Acceleration

Aerotech's BLM and BLMH series brushless linear servomotors drive the AGS15000 to speeds of 3 m/s and accelerations of 5 g. Dual linear motors and encoders are included on the lower axis for ultimate performance and precision. The rugged noncontact optical linear encoders offer resolutions to one nanometer when coupled with Aerotech's encoder multiplier. Optimized to account for thermal expansion, this gantry design ensures high accuracy under varying operating conditions.

Rugged Design

All elements of the AGS15000 were designed for precision as well as a long, trouble-free life. The linear motor is a noncontact device with no backlash, wear, or maintenance issues, such as those found in ball-screw-driven systems. The bearings are preloaded linear motion guides with wiper seals and grease fittings, and are mounted to provide optimized dynamic stiffness and load distribution. The AGS15000 design keeps the linear motors and linear encoders to the outside of the work area making the gantry less susceptible to debris-induced damage.

Long-Lasting Cable Management System

The cable management system (CMS) is optimized and field-proven as the industry's most reliable design. Large bend radii and high-flex cables ensure that the AGS15000 provides millions of cycles of maintenance-free operation. In the unlikely event of a component failure, a modular design ensures that part replacement is fast and easy.

All customer cabling and pneumatics can be routed through the system e-chain. Connectors are provided at the workpiece and at the opposite end of the e-chain, greatly simplifying final machine integration.

Turnkey Operation

Aerotech's years of experience manufacturing precision positioning and control systems can be leveraged by acquiring a turnkey system. Typical options include Z-theta mechanisms, risers to accommodate automated parts handling equipment, brackets for flying optics components, isolation systems, and machine bases that are designed to accommodate the entire controls and electronics subsystems.

System Controllers

Aerotech manufactures a wide range of amplifiers and advanced motion controllers that are optimized for high-performance automation applications, and are a perfect complement to your Aerotech gantry.

For further information, please contact Steve McLane at 412-967-6854 (direct), or via e-mail at smclane@aerotech.com. In addition, the AGS15000 series data sheet is available at <http://www.aerotech.com/products/gantries/ags15000.html>.

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